



Delivery Management Operations Services (DMOS)

Oral Presentation (Factor 1) Phase 2

Solicitation number: 70SBUR21R00000011
August 19, 2021

Submitted to:

Department of Homeland Security (DHS)
United States Citizenship and
Immigration Services (USCIS)
Celina.R.Hemingway@uscis.dhs.gov
Dianne.E.Valiando@uscis.dhs.gov

GitHub Invitation:

Djakoure.R.Agre@uscis.dhs.gov
Submitted via GSA e-Buy

Submitted by:

Favor TechConsulting, LLC
8075 Leesburg Pike, Suite 300
Vienna VA, 22182
DUNS: 808250745 / CAGE Code: 4YSP2
VETS2 Contract#: 47QTCH18D0017
POC: Louise Bassette, Director of Contracts
703-662-9535/lbassette@ftc-llc.com

In partnership with:



This proposal includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed - in whole or part - for any purpose other than to evaluate this proposal. If, however, a contract is awarded to the offer or as a result of - or in connection with - the submission of this data, the Government shall have the right to duplicate, use or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government's right to use or disclose any data obtained from another source without restriction.

Tom Dumouchelle

- Supported the Transformation Program since 2007.
- Continuously served as the Transformation PMSS contract Lead since 2010.
- Trusted Advisor to OIT TDD and FOD executive leadership.

Management Lead**Rob Bergstrom**

- Proven delivery of big data, AI / ML driven decision support systems with customized data analytics in both government and commercial environments
- Expert of complex systems in a DevOps environment

Cloud Architect**Matt Bringman**

- 20 years experience managing software development programs from \$50M to \$300M for the federal government
- Managed programs at DHS and supported FEMA, CISA, CBP, TSA, and HQs since 2010

Vice President DHS**Mohammad (Shavi) Shajibujjaman****Team Lead**

- 15 years of experience in IT in the roles of a Technical Lead, Software Developer, Automation Integration Engineer, QC Control and DevSecOps.
- Expert in developing and testing web-based applications in an Agile environment under the scrum and Kanban framework.
- Expert in deploying code manually and also using automated tools such as GIT, Maven, Gradle, Tomcat, Jenkins, RHEL, Kubernetes.

Merzad Ranjbaran**Tier 3 Production Support**

- Supported the Transformation Program since 2012.
- Triaging all ELIS2 production issues by determining the type of issues such as Environment issue, code defect or work as designed

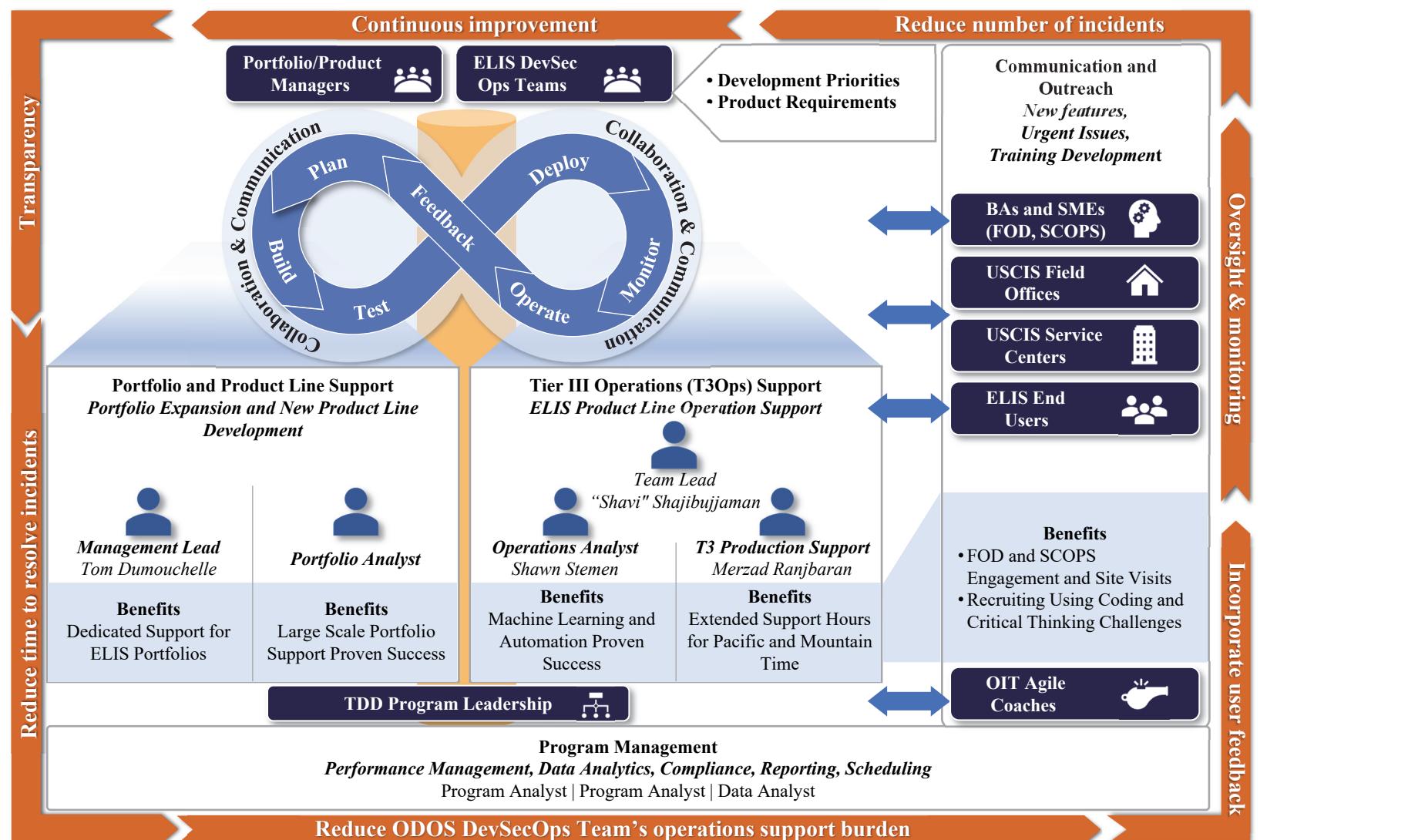
Dr. Kevin Keane

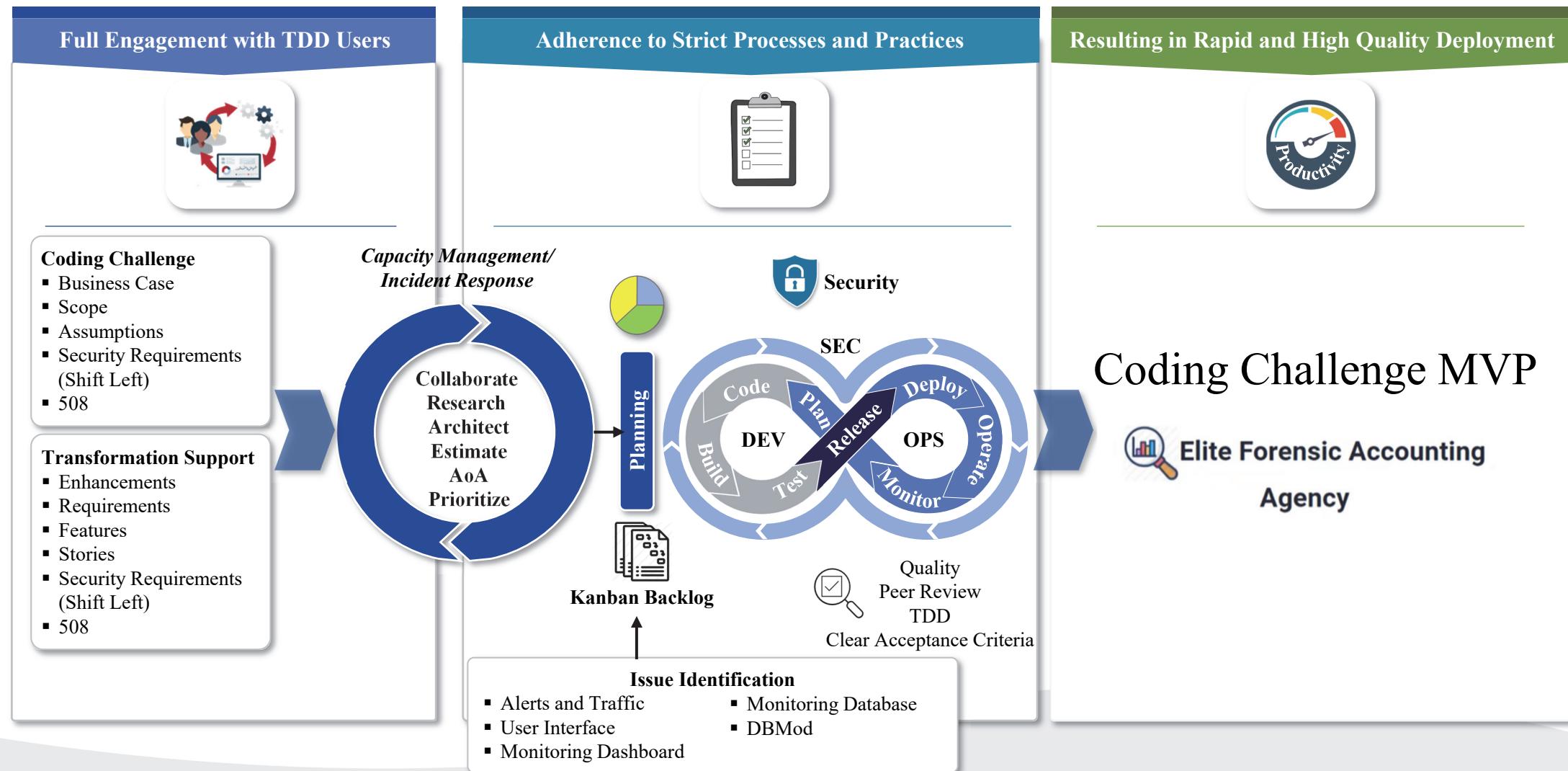
- Specialized in mathematical programming and optimizations, data modeling, software development, and machine learning.

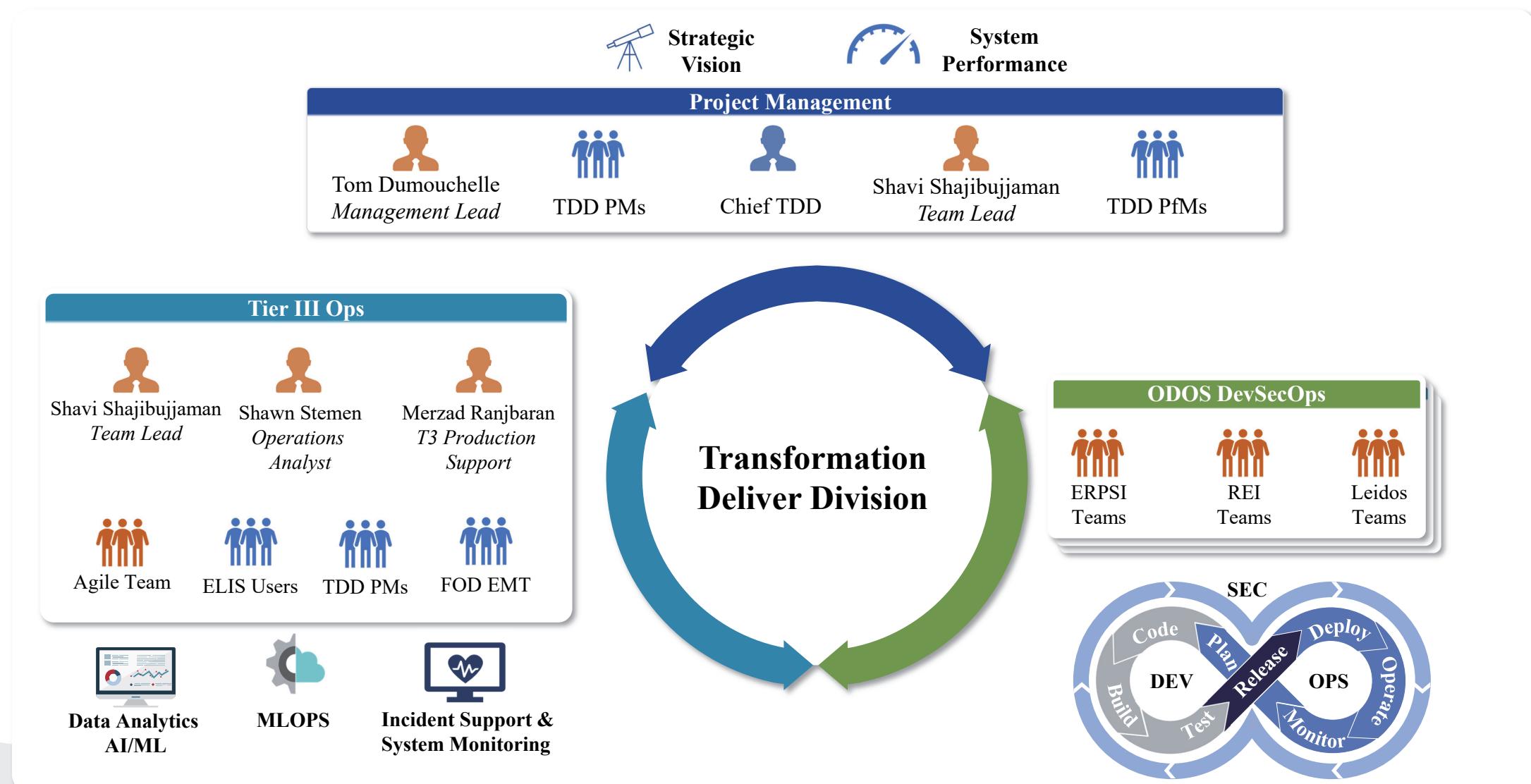
Senior Analytic Methodologist

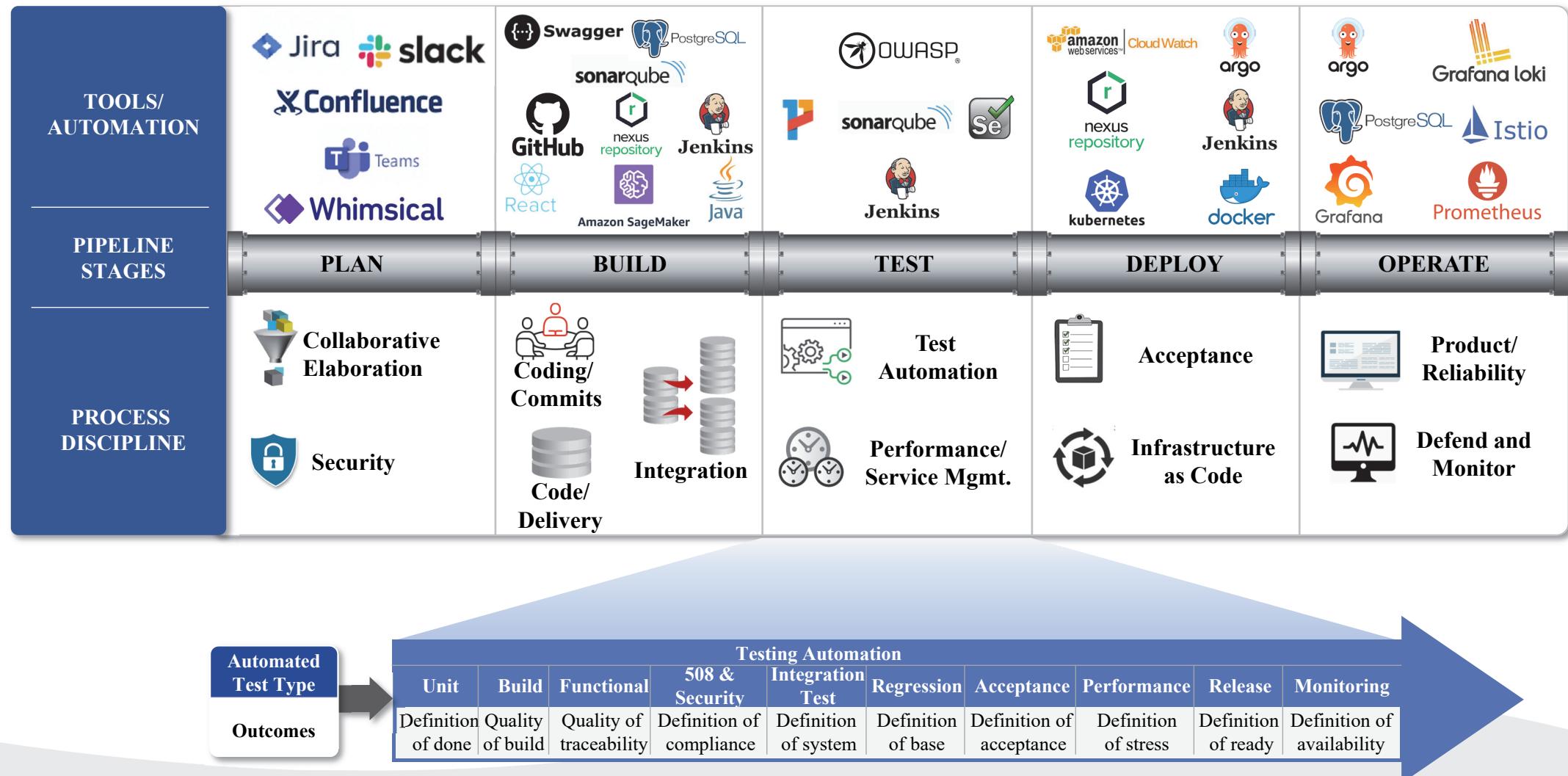
DMOS Approach

Successful and Tested DMOS Approach

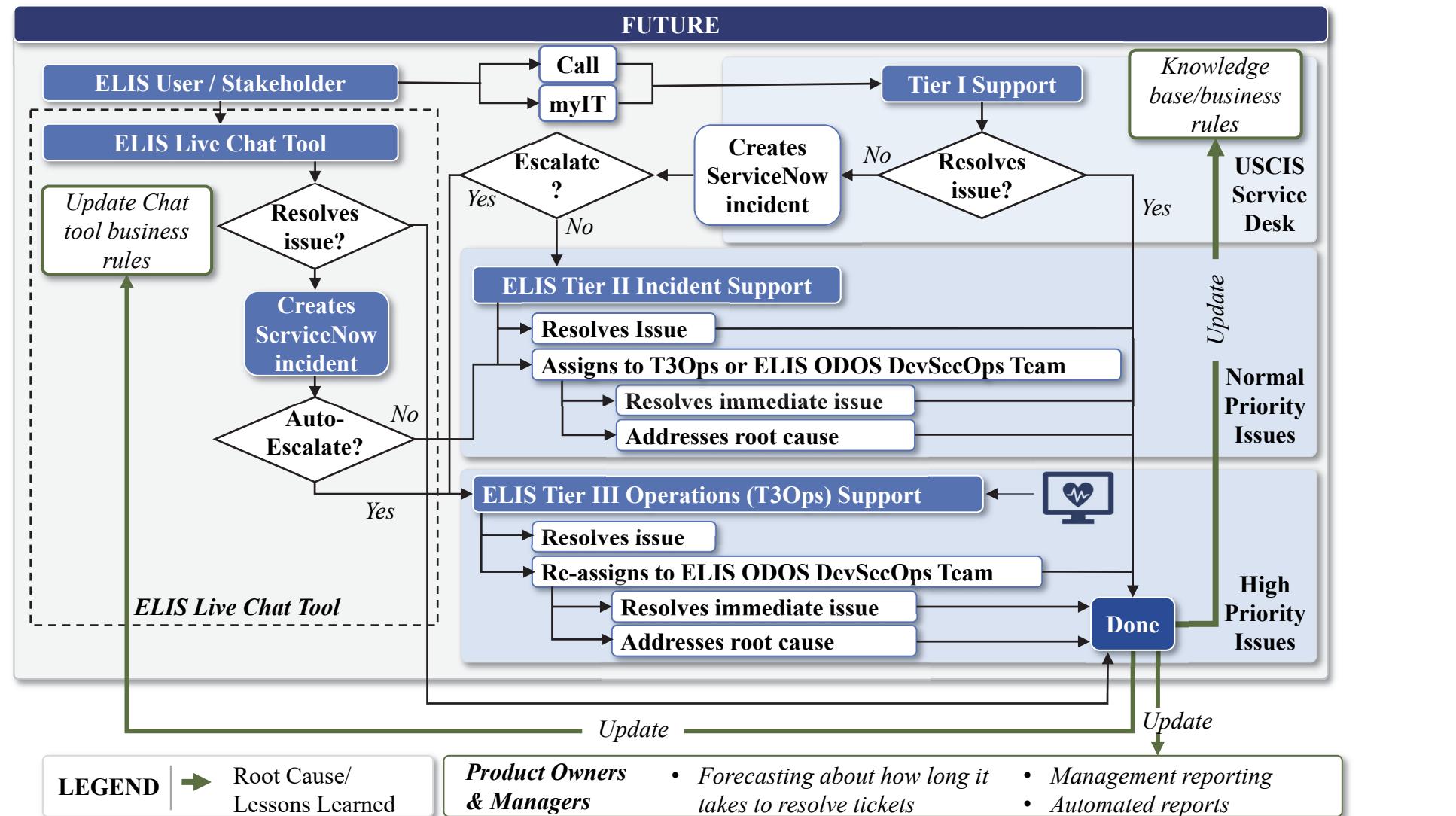








Process Discipline for Incident Response





Technology
SMEs



New
Technology



Innovation Center



Innovation
Teams



Efficiency &
Speed



MLOPS



Data Analytics
AI/ML

Demonstrated Innovations

VA FSC

Daily processing of 1000s of financial files totaling \$22B/year across 45+ applications and 2000 clinics. Event driven design to interoperable data management and operational decision support. In first year of RPA, introduce 36 bots

- Reduced a time-consuming manual registration process from average of 3 minutes to under 30 seconds
- Reduced invoice processing costs by 33%, saving VA tens of millions of dollars, and payments to vendors are nearly 100% on time and accurate
- 66% increase in invoices processed
- Improved payment accuracy and timeliness by 10% to 15%, eliminating late fees and overpayment

DHA USFHP

150,000 active duty, National Guard, and retired service members and their families receive care from six independent healthcare providers. We provide the system for business intelligence and data analytics to enable DHA PMs and stakeholders to improve care

- FTC was the first company to take a Defense Health System to the Cloud which saved the government \$6M in operating expenses the first year and continue to implement microservices to reduce cost
- Currently working to implement a Chatbot to improve the user experience and reduce the number of help tickets

BAM PMO

BAM PMO Team provides integrated oversight and coordination for 10 Product Lines to fulfill the technology and development. VA PLMs with the daily administration and execution of their projects by providing expert planning, budget, strategic planning, engineering oversight, policy compliance and execution. FTC manages portfolio-level strategic communications, standardized governance, financial oversight, contracting onboarding, and performance monitoring.

- Onboarding Incubator – FTC developed an onboarding playbook to explain the organization processes and protocols. We can standup a Cloud Environment based on USCIS tool stack and processes to mimic the environment and allow resources to become familiar prior to EOD

Digitization and Automation

Rapid Delivery

Efficiency and User Experience

MVP Demo

- Productivity and Business Value – requirements broken down with clear acceptance criteria, quality driven into process and tools, security in requirements and testing
- Collaborative Environment – slack, JIRA, whimsical to refine the system
- Process Discipline – simple workflow, automated environments, and testing
- Innovation – data analytics using artificial intelligence and machine learning

- Received the Coding Challenge instructions
- Met with PO, BA, Architect and Sr Developer to review
- Five epics to meet challenge scope – front end, reporting, DevSecOps, persistence, documentation, artificial intelligence
- Used wireframes and mockups to elaborated the features
- Deconstructed epics and features into a prioritized backlog
- Implemented KanBan with WIP limits based on number of team members
- Stories flowed from “Backlog” into “To Do” and developers swarmed on each task
- Upon completion merged code and launched automation
- Unit test, functional test, security test must pass to move to “Done”

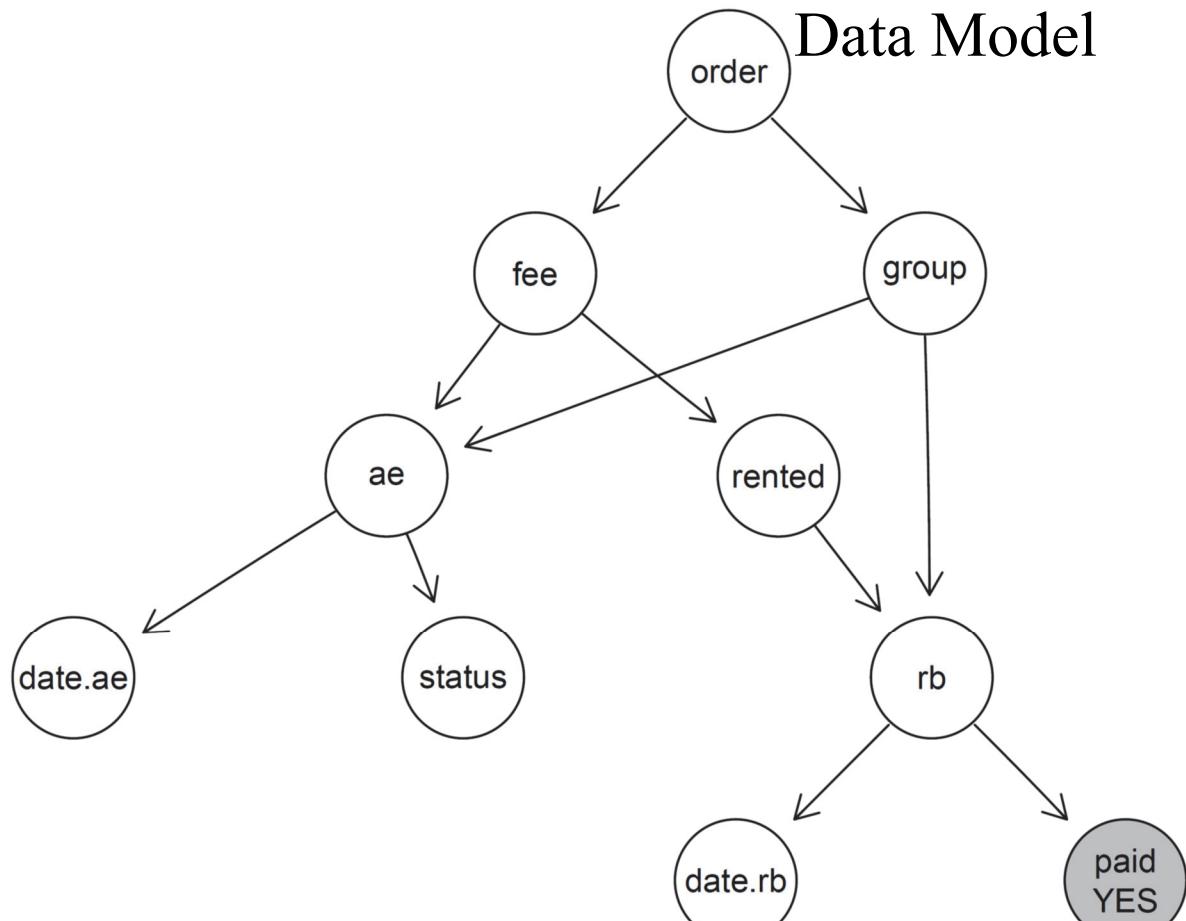


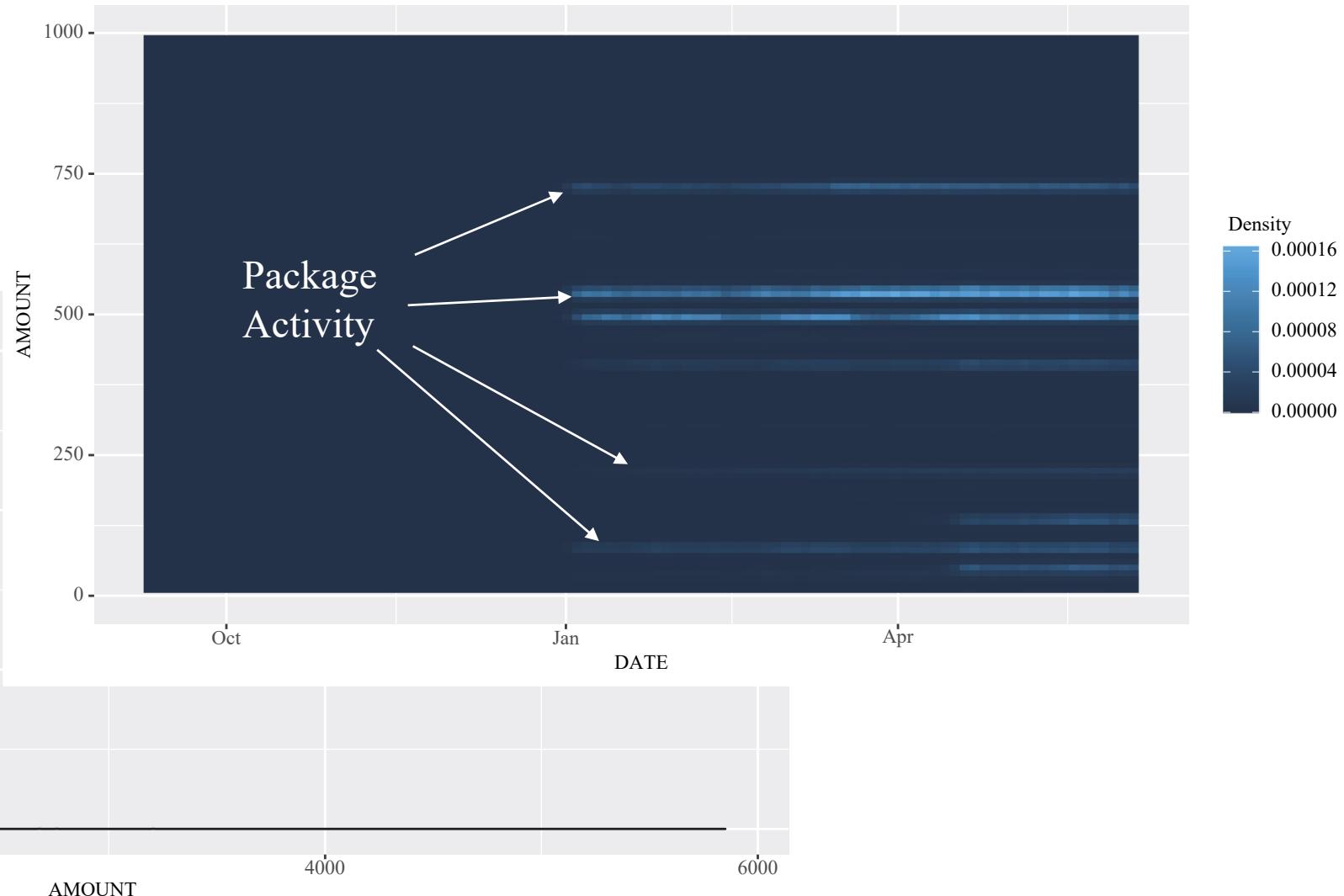
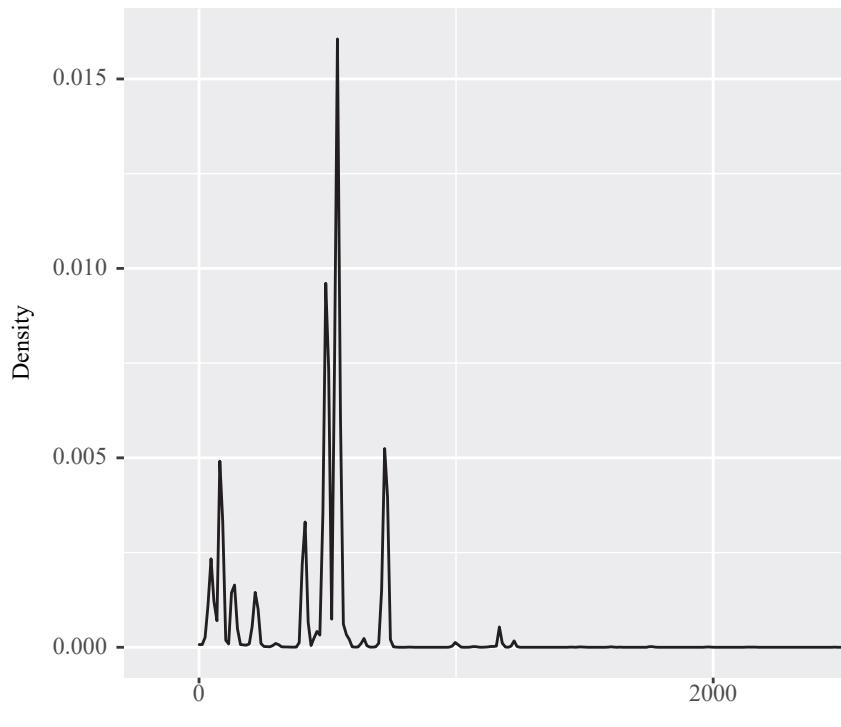
Data Analytics

- Found expertise from the team and SMEs at companies to interview and elicit information for the demo as well as data analysis
- There were the following challenges:
 - Accounting entry – One to one relationship to orders\invoices, no failed transactions, and other
- IPO assessment would have more information:
 - Company financials: Balance sheet, income statement, bank statements, backup information such as (invoices, receipts, payables), qualitative product information, competitive analysis, accounting process documents, etc.

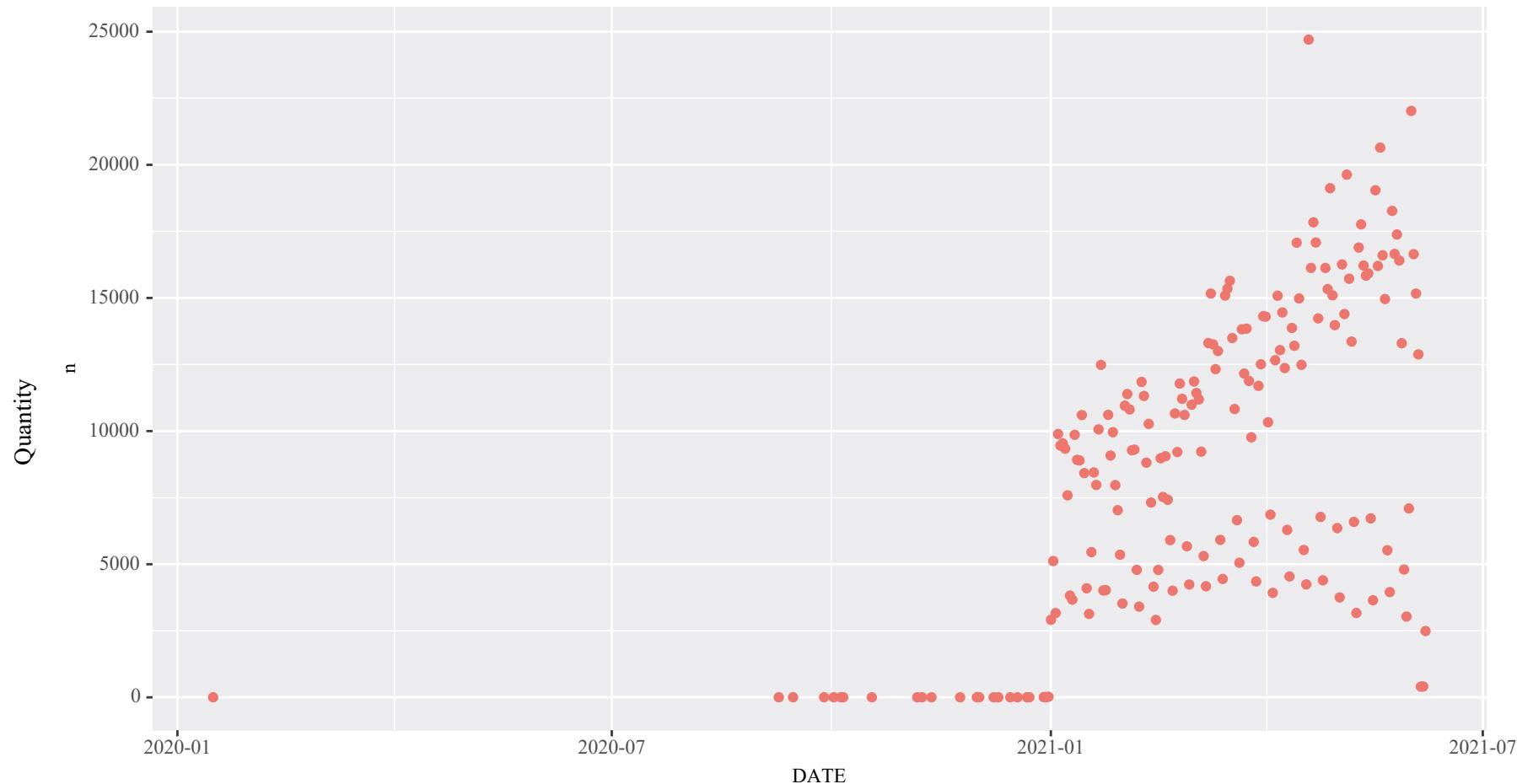
- Launched two paths of analysis for the data
 - Human Intelligence Analysis – Data Science to find patterns, anomalies, and other findings
 - AI\ML Analysis – Amazon Sagemaker to create, train, and use a model to find patterns, anomalies, and other findings

- Analytic tools in CentOS based Docker
 - R, Rstudio
 - Python, Jupyter Lab
 - Java, Eclipse
- Tried to identify data by the descriptions
- Data model using assumed relationships
- Looked for anomalies, patterns, and trends

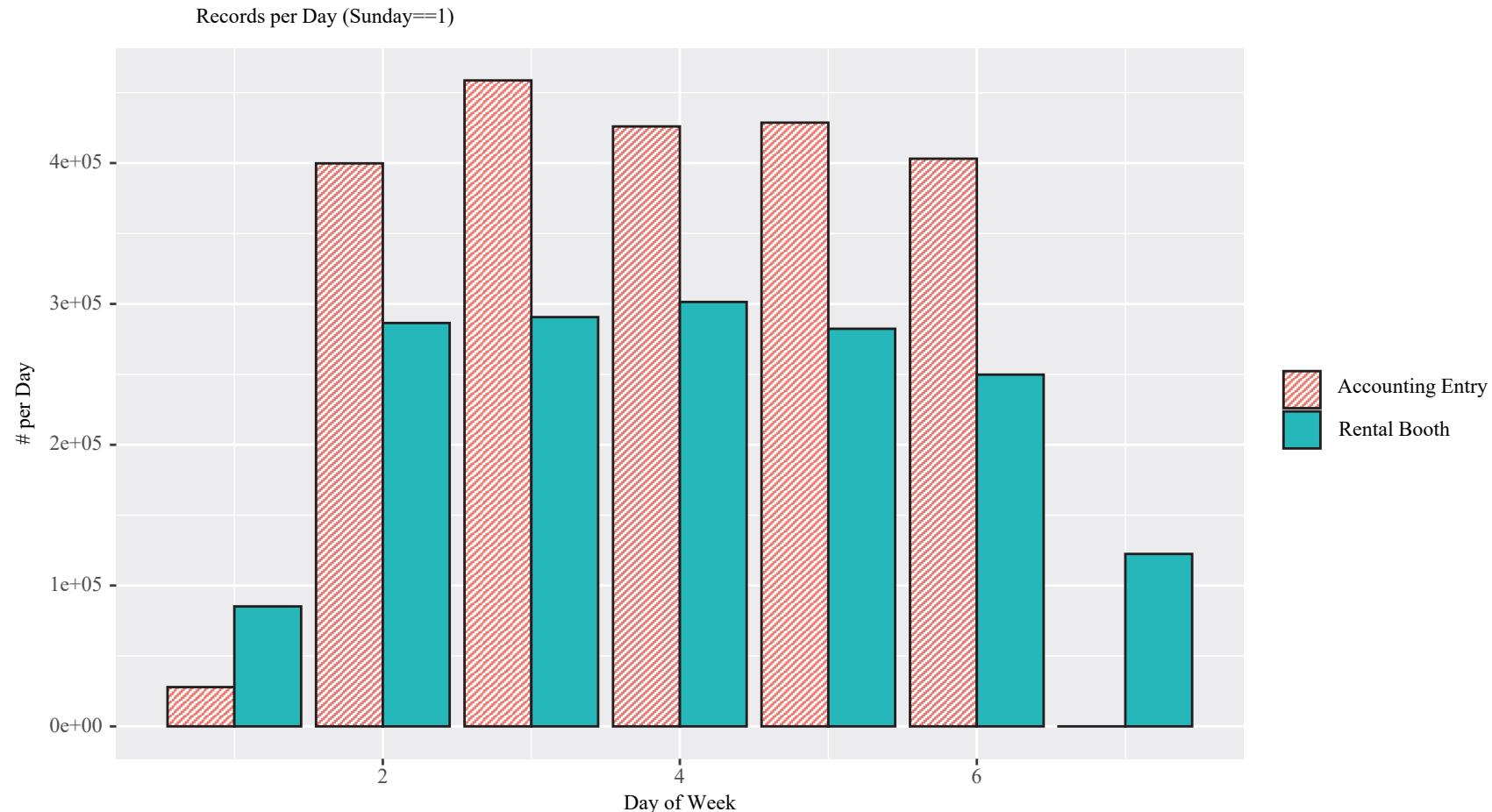


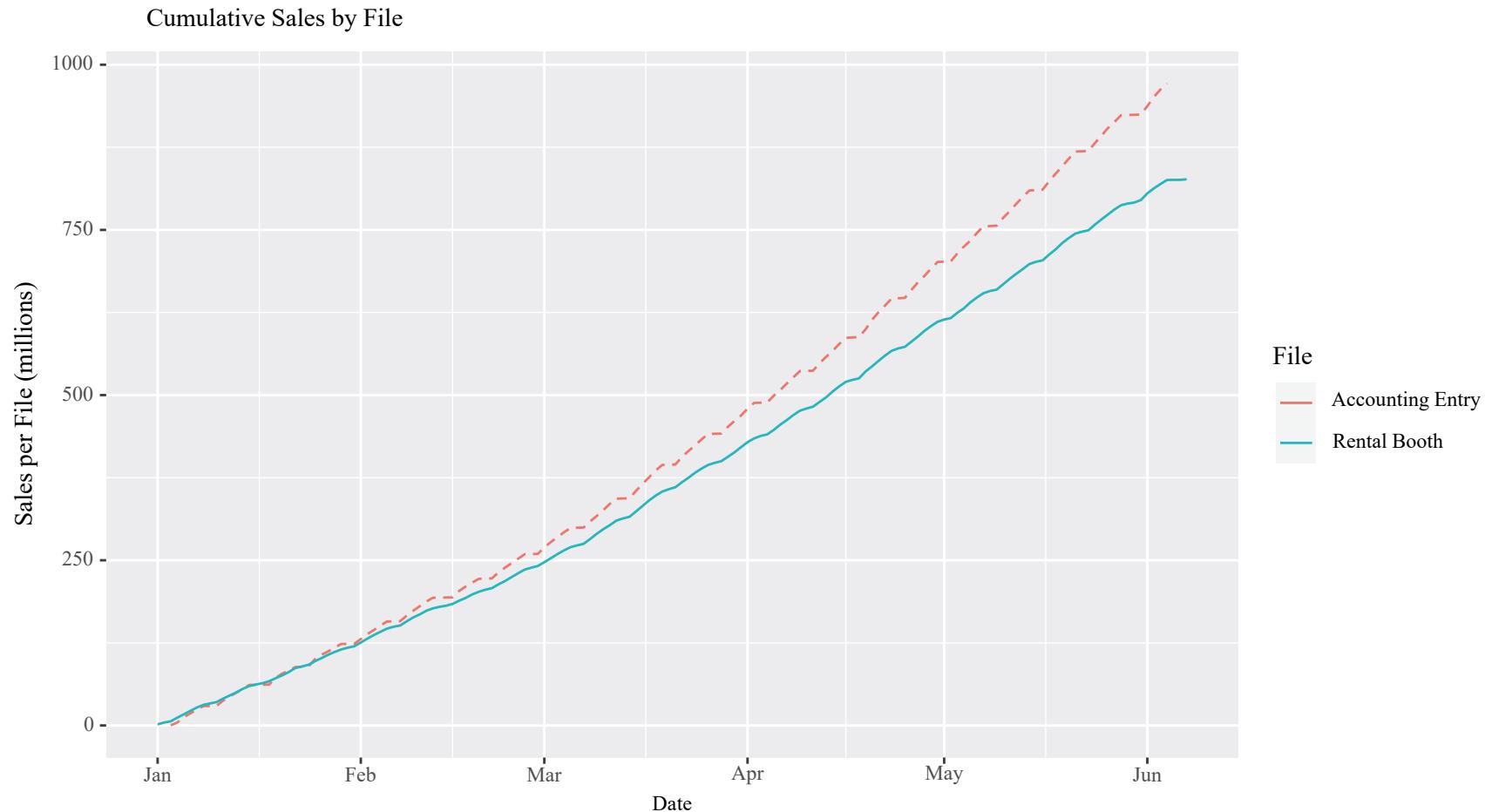


- Wide range for AMOUNT (0 – 6000)
- Activity picks up in January 2021
- Some change in mix of prices in April 2021
- Most records have STATUS = PAID
 - Approximately 3 FAILED per 2,000 PAID
- ORDER is not unique (26 repeats/ORDER)
- GROUP is not unique (390 repeats/GROUP)



- Each package RENTED has a unique fee
- FEE is unique across PACKAGES
- Highest FEE is 1,225
 - Much lower than seen in *Accounting Entry* files
- All records marked PAID = YES
- ORDER is unique; GROUP repeats <20 times
- Activity rises over 2021; increases abruptly in January 2021

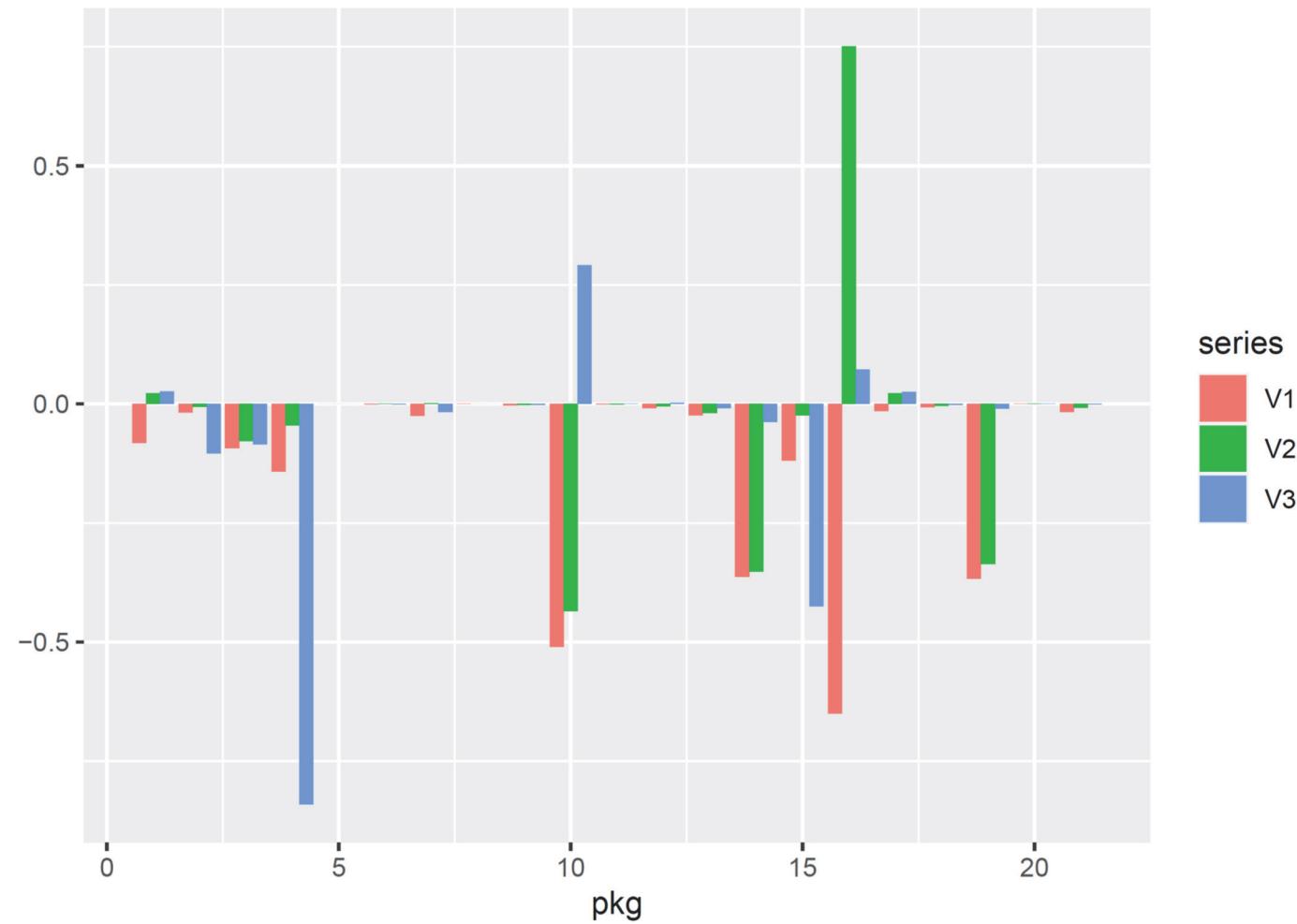




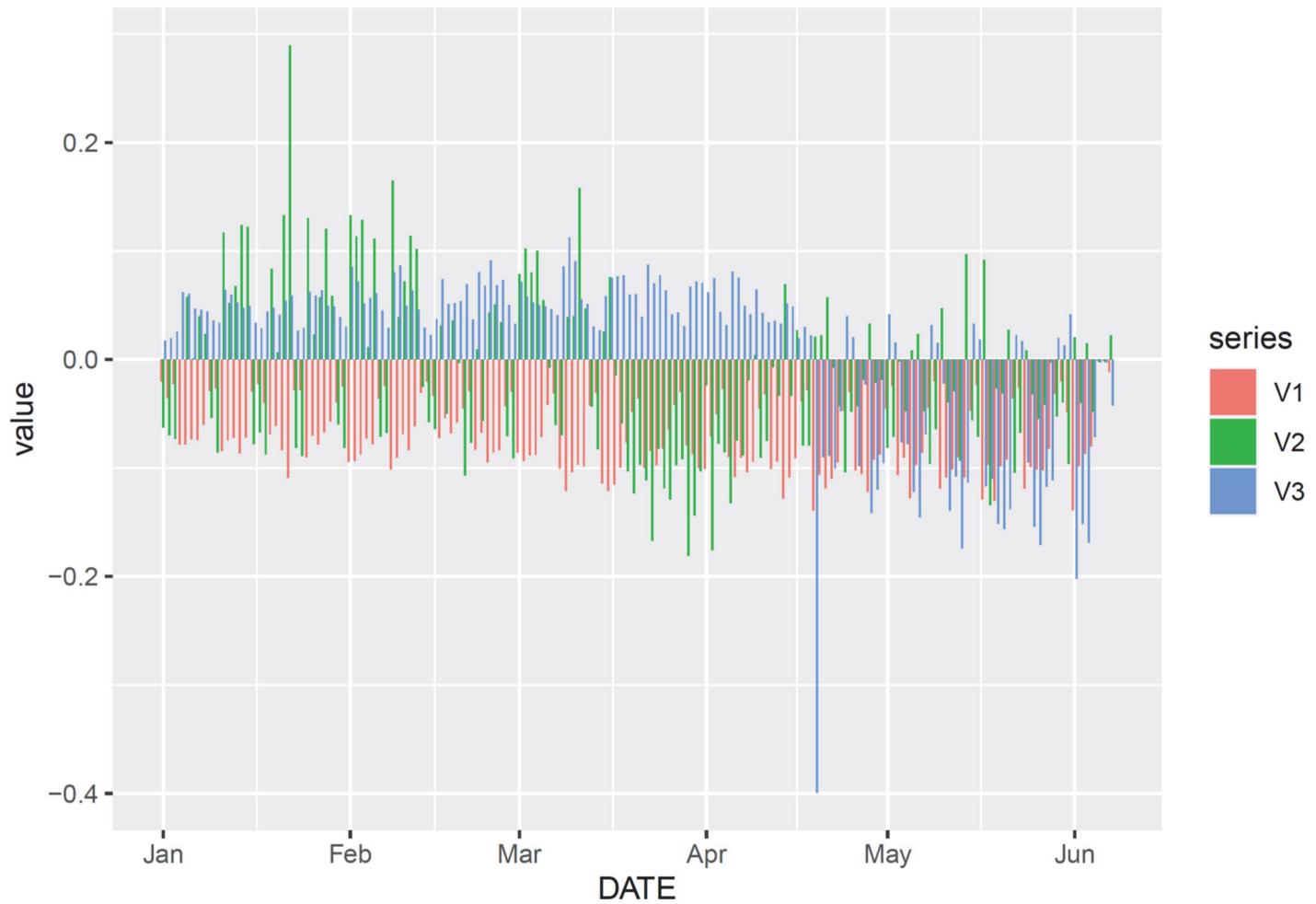
- No records dated Saturday in *Accounting Entry*
- *Rental Booth* slower on Saturday and Sunday; roughly similarly active during weekdays
- Variation in unmatched records by package, but no obvious pattern noted
- Cumulative sales consistently and increasingly higher in *Accounting Entry* files
- **500k unmatched *Accounting Entry* records!**

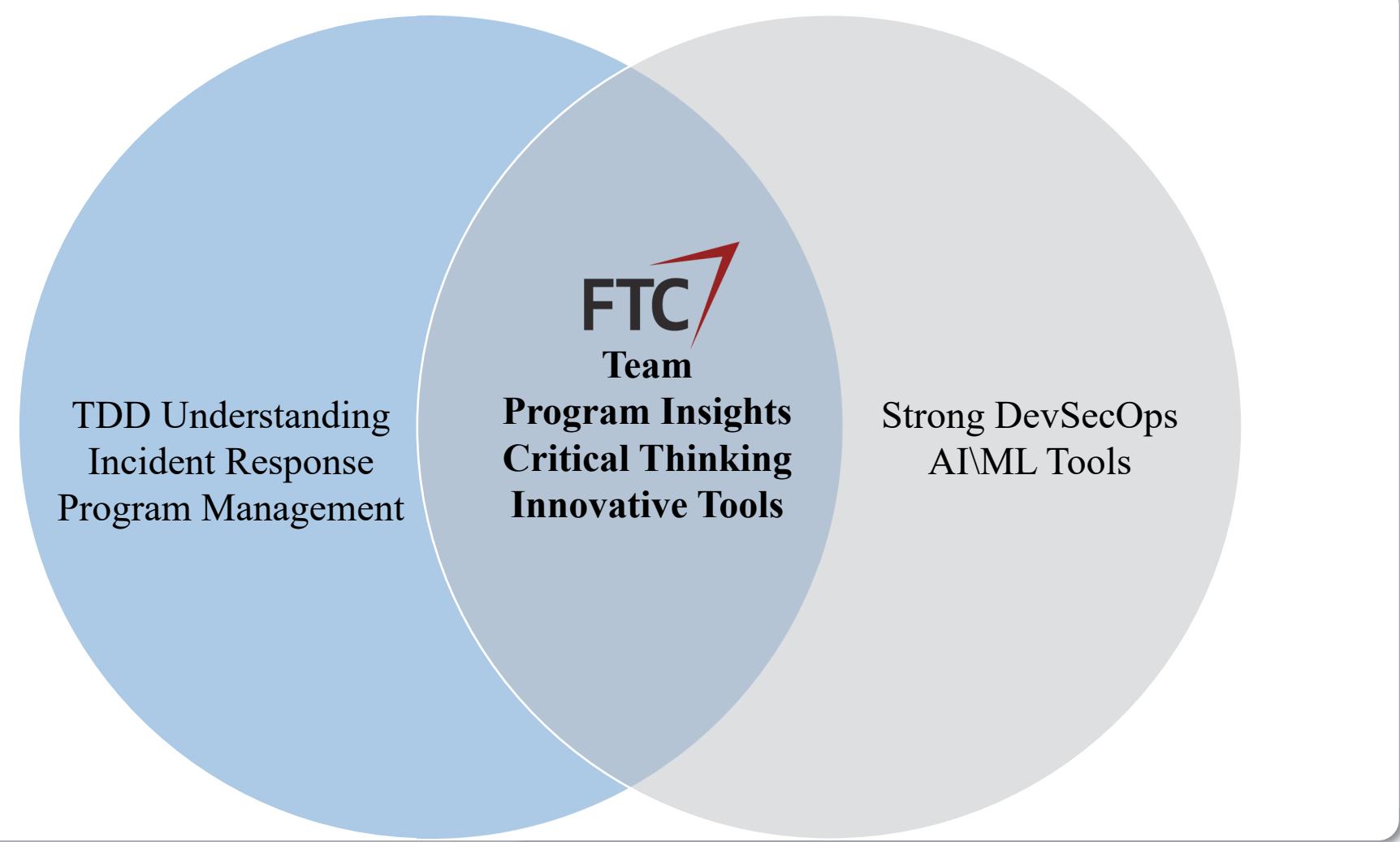
- Given $\langle E \ T \ P \rangle$, the learning problem is well defined.
- For the coding challenge we were provided:
 - Training experience E (Coding challenge data sets)
 - Executing task T
 - Improving measure of performance P
- With limited elements, we applied unsupervised methods

RENTED	V1	V2	V3
Package 4			-0.84
Package 10	-0.51	-0.43	0.29
Package 14	-0.36	-0.35	
Package 15			-0.42
Package 16	-0.65	0.75	
Package 19	-0.37	-0.34	



DATE	V2	V3
2021-01-22	0.29	
2021-04-19		-0.4







\$500M Cloud Development
Data Analytics and Innovation



USCIS CDO Support
TDD Strategic Partner



U.S. Citizenship and
Immigration Services



TDD Strategic Partner PM
and Strategic Communications

Thank You